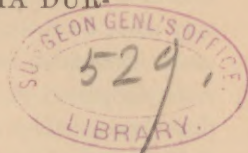


FLICK (L.F.)

COMPLIMENTS OF  
LAWRENCE F. FLICK.  
736 PINE STREET,  
PHILADELPHIA.

A REVIEW OF THE CASES OF TUBERCULOSIS WHICH  
TERMINATED IN DEATH IN THE FIFTH WARD  
OF THE CITY OF PHILADELPHIA DUR-  
ING THE YEAR 1888.

By L. F. FLICK, M.D.



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BECAUSE of the confusing and indefinite nomenclature of tubercular diseases, and because also of the incompetence to make a diagnosis of some physicians who practise medicine, the deductions drawn from Board of Health reports cannot be accepted with any great degree of confidence. Nevertheless, with a disease from which there are as many deaths as there are from tuberculosis, we ought at least to arrive at general truths by careful topographical studies of such reports, and it is with the object of throwing some further light upon the question of the contagiousness of tuberculosis that I present this brief paper.

The Fifth Ward of the city of Philadelphia has an area of 0.321 square mile; has a population of about 16,000; and contains in the neighborhood of 3500 houses. The population consists mostly of poor people—about 20 per cent. colored—and has in its make-up foreigners of every description and nationality; but in no part of the ward can there said to be great overcrowding.

During the twenty-five years preceding 1888 about 1500 deaths were returned from the ward under the various nomenclatures for consumption of the lungs and bowels, and such other nomenclatures as have the word tubercular attached or have that word for their basis, and they occurred in about 950 houses, thus infecting about 30 per cent. of the houses of the ward. Deaths returned under the heading of marasmus and other erroneous nomenclatures, and which were really due to tuberculosis, are not included in the 1500, hence 30 per cent. may be looked upon as too low a representation of the number of infected houses; but inasmuch as deaths from such diseases occur largely

in the same houses as deaths from tuberculosis of the lungs, as will be seen from the report for 1888, their exclusion in determining the number of infected houses cannot materially alter the result, and 30 per cent. may be accepted as approximately correct. I have selected twenty-five years as the most remote period to determine the infection of a house by, for two reasons: first, because a house may retain its infection for a long time by intercurrent cases, which may get well, may move away and die somewhere else, or may die and be returned under some false nomenclature; and, secondly, because the more remote the period the stronger the emphasis on the non-infectedness of those houses which are set down as such.

During the year 1888 there occurred in the Fifth Ward of the city of Philadelphia 103 deaths which may be plausibly ascribed to some form of tuberculosis. Of these, 60 were returned under the various nomenclatures for consumption, 17 under the heading of marasmus, 7 under that of meningitis (3 having the word tubercular attached), 5 under that of hemoptysis, 4 under inanition, 2 each under tabes mesenterica and consumption of the bowels, and 1 each under tuberculosis, general tuberculosis, chronic bronchitis, empyema, scrofula, and asthma.

Of the 103 deaths, 15 were returned from the residences of undertakers, 3 from the Consumptives' Home on Spruce Street, 1 from a lodge-room, and 1 from the Almshouse. Of the cases returned from the residences of undertakers, 11 were cases of phthisis, 2 of marasmus, and 1 each of scrofula and general tuberculosis. The cases from the Consumptives' Home, the case from the lodge-room, and the case from the Almshouse were all cases of phthisis. Four of the cases returned from the residences of undertakers died at the Almshouse, 2 at the Pennsylvania Hospital, 1 at St. Mary's Hospital, 1 at St. Joseph's Hospital, 1 at the Consumptives' Home at Chestnut Hill, and 1 at Moyamensing Prison. Inquiries as to the dwelling-places of these cases prior to their entry into the hospitals were attended with unsatisfactory results, but some of them at least lived outside of the ward.

Deducting the cases returned from the residences of undertakers, Consumptives' Home, etc.—20 in number—from 103, the number returned from the ward, we have 83 cases which were reported from the residences in which they presumably died. Of these, 44 were cases of tuberculosis of the lungs, returned under its various nomenclatures; 15 were returned as marasmus, 7 as meningitis, 5 as hemoptysis, 4 as inanition, 2 each as consumption of the bowels and tabes



mesenterica, and 1 each as tuberculosis, asthma, empyema, and chronic bronchitis.

Of these 83 cases, I find that 48 were returned as having died in houses which were infected—that is, houses in which a death from some form of phthisis, or some disease with the word tubercular attached, had occurred sometime within twenty-five years; and 35 in houses which were not infected—that is, houses in which no such death had occurred within twenty-five years. Of the cases which died in infected houses, 23 were returned as phthisis under its various nomenclatures, 10 as marasmus, 5 as meningitis, 2 each as tabes mesenterica, inanition, and hemoptysis, and 1 each as tuberculosis, asthma, empyema, and consumption of the bowels. Of the cases which died in non-infected houses, 21 were returned under the nomenclatures for phthisis, 5 under that of marasmus, 3 under hemoptysis, 2 each under meningitis and inanition, and 1 each under consumption of the bowels and chronic bronchitis.

Of the 23 infected houses from which a death from tuberculosis of the lungs was reported, 18 had had a death from tuberculosis in them within ten years, 14 within seven years, 12 within four years, and 8 within two years. Of the 10 infected houses from which a death from marasmus was reported, 9 had had a death from tuberculosis in them within ten years, 8 within seven years, 7 within five years, 4 within one year. Of the 5 infected houses from which a death from meningitis was reported, 2 had had a death from tuberculosis in them within ten years, and 1 within three years. Of the 2 infected houses from which a death from inanition was reported, 1 had had a death from tuberculosis in it within five years. Of the 2 infected houses from which a death from tabes mesenterica was reported, 1 had had a death from tuberculosis in it within one year. The infected house from which a death from consumption of the bowels was reported had had a death from tuberculosis in it within three years. Thus it will be seen that out of the 48 infected houses in which deaths from tuberculosis occurred during the year 1888, 32 had had deaths from tuberculosis in them within ten years prior to 1888.

In only 5 of the 48 cases which were returned from infected houses during the year 1888, was the name the same as that of the person who had died in the house before, and of these, 2 probably bore the relation of husband and wife to the person who had died in the house first.

About the 23 cases of tuberculosis of the lungs which were returned from infected houses, I was given the following information at the

houses from which they were reported: First, that 4 of them did not die in the house from which they were returned. Upon inquiry I was able to locate the place of death of 2 of these, 1 having died at a hospital, and the other having lived and died in an infected house. Secondly, that 8 of them had consumption before they moved into the house in which they died. Of 3 of these I was able to discover the former dwelling-place, all three of which contracted the disease whilst living in recently infected houses.

About the 21 cases of tuberculosis of the lung which were returned from non-infected houses, I was given the following information at the houses from which they were reported, and by neighbors and friends of the deceased: First, that 1 of them did not die of consumption, but was reported to have died of that disease for delicate reasons. Second, that 2 of them did not die in the houses from which they were returned. In both of these I was able to locate the place of death, and in one of them I found that the house was an infected one, that the person had lived there a year, but that he probably had the disease when he moved there. Third, that 7 of them had had consumption when they moved into the houses in which they died. Of 2 of these I was able to discover the previous residence, and in both I found it to be an infected house. Fourth, that 2 of them had been associated with consumptives in their business. In neither of these cases was there any family history of consumption. Fifth, that 5 of them lived in lodging-houses, where there was a constantly changing population, and that 3 of these were drinking people.

This information, I am sorry to say, even meagre as it is, is not very reliable. The fears, suspicions, and prejudices of many of the people from whom I sought it, prevented them from telling the entire truth, and even led them to misstate facts. I give it, however, as I got it, so that every one, with the entire picture before him, may draw his own conclusions.

Even the data which I took from the Board of Health records I cannot endorse as entirely trustworthy. The custom of returning deaths from the place of burial, instead of the place of death, the carelessness of undertakers in giving the numbers of houses and wards, and the indefiniteness of the nomenclature used by physicians, I am sure engendered mistakes which I have not in every instance been able to correct.

The moving about from place to place of persons suffering from tuberculosis ought likewise to be taken into consideration in drawing conclusions, where infected houses, so determined, upon mortality



statistics alone, form part of the premises of the argument. To what extent such change of residence alters the actual percentage of infected houses, and consequently invalidates the conclusions based upon the facts and figures I have given, must, of course, remain an unknown quantity, and must be approximately measured by every one for himself.

In spite, however, of all the sources of inaccuracy which I have just mentioned, the figures which I have given bearing upon tuberculosis in the Fifth Ward of this city for the year 1888, point unmistakably to the fact that tuberculosis is not only contagious in the broad sense of that word, but that a house in which the disease has existed remains a centre of infection for an indefinite time. Upon no other theory than this can a rational explanation be given of the fact that, whilst less than one-third of the houses of the ward became infected with tuberculosis during the twenty-five years prior to 1888, considerably more than one-half of the deaths from tuberculosis during the year 1888 occurred in those infected houses. Inasmuch as there were more than twice as many non-infected houses in the ward as there were infected houses, we would naturally expect a preponderance of deaths in non-infected houses. Why this great preponderance of deaths in infected houses?

The conclusion that houses once infected by tuberculosis retain that infection for some time, is even more strongly borne out by individual cases than by the aggregate number of cases during the year. A death from tuberculosis occurred in a house on Gaskill Street in 1880. The family moved out, and R. H. moved in. Was quite well when moved there. Was a travelling salesman, and was away from home a good deal but had his home there. In time developed consumption and died in 1888. L. M. lived in the house, in which she died, for many years. A person who was no relative of hers died from consumption in the house in 1887. She took the disease in a very acute form and died in 1888. H. M. suffered from chronic tuberculous diarrhœa, and died from it during the year 1888. During that same year there occurred a death from marasmus in the same house. A death from consumption of the bowels was returned during January of 1888, from a certain house on Hurst Street; a woman who died from phthisis, during September of the same year, on Lombard Street, probably contracted the disease in that same house, as she lived there about that same time. During the latter part of 1887, a person died of phthisis in a certain house in the ward; during July of 1888, a child nine months old, not of the same family, died in the same house from

tabes mesenterica. During the month of September, 1888, there occurred two deaths in an infected house in the ward, one from marasmus in a child one year old, and one from meningitis in a child two years old. The house had had three deaths from tuberculosis within recent years, the most recent reported being 1885. In a house on St. Mary Street a death occurred from consumption during the latter part of 1887; during July, 1888, a child seventeen months old died in the same house from marasmus. A woman is reported to have died from phthisis in a house on Union Street during the year 1888, from which no cases of tuberculosis had ever been returned before. The house is a lodging-house, and she is said to have taken the disease whilst living there. A man who died in a non-infected house on Spruce Street, during the same year, was found to have contracted the disease in that same house about the same time. A death from tuberculosis was returned from a house on Dock Street in 1882. J. C. moved into the house some time in 1884. He contracted consumption and died in 1888. These cases are all taken from among those who died from tuberculosis in the Fifth Ward during the year 1888. By going back of that year I could cite from my notes hundreds of equally striking cases illustrating the infectious etiology of tuberculosis.

Perhaps one of the most interesting lessons to be learned from this inquiry into the relation which the deaths from tuberculosis in the Fifth Ward during the year 1888 bore to those from the same disease during the twenty-five years prior thereto, is that bearing upon marasmus and meningitis in children. It will be remembered that out of twenty-two deaths from these two diseases, seventeen occurred in houses which had been infected by tuberculosis of the lungs and bowels in adults. It would appear from this that marasmus and tubercular meningitis in children are apt to be concurrent with tuberculosis of the lungs and bowels in adults—that is, where an adult is suffering from phthisis or consumption of the bowels in a house, the children of that house are prone to develop marasmus or tubercular meningitis, and that these diseases are not apt to become centres of infection themselves.

It is somewhat surprising that only seven deaths were returned from the ward under the heading of meningitis for the entire year, and that really only three of those had the word tubercular attached. The number of cases of tubercular meningitis which I meet with in my own practice would lead me to believe that these figures do not correctly represent the relative frequency of the disease, and that in all



probability many deaths which are ascribed to convulsions are really due to tubercular meningitis. I have within the last year seen four deaths from tubercular meningitis in children, three of which occurred in houses in which there were cases of phthisis in an adult.

It is greatly to be regretted that our nomenclature of tubercular diseases is not more definite and more uniform than it is; for until it becomes so, statistical and clinical study of the disease will necessarily remain difficult. We cannot hope, however, to make much progress in this direction until the etiology of tuberculosis is settled, and until precise knowledge upon the subject will be dispensed from every seat of medical learning. It is with the desire of hastening that day that I present this statistical analysis, if I may so call it, hoping thereby to stimulate others to enter this promising field of study.

Many interesting deductions besides the few which I have made, might be drawn from the figures which I present, and many criticisms made upon the practical operation of our sanitary laws, as a legitimate part of this paper, but it would lead to subjects which in themselves furnish material for cumbersome papers. I will, therefore, for the present rest content with stating the facts and calling attention to a few of the most striking conclusions which grow out of those facts.

